



ELCHI S.r.l. – HQ MOULDING MATERIALS

via Forlì 16 - 20010 Canegrate (Milano) - ITALY

tel : ++39.0331.400119-411640 - fax : ++39.0331.400540

e-mail : elchi@elchi.it - internet : www.elchi.it

Certificate No CERT-03182-98-AQ-MIL-SINCERT – UNI EN ISO 9001:2000 (ISO 9001:2000)

ELCHI: Thermoset moulding materials for gas and fuel meters

[Our history](#)

Since 1974, **ELCHI S.r.l.** has created and produced a wide range of High Quality Moulding Materials, mainly based on Thermosets resins. Working closely with our customers, we have developed an extensive range of moulding compounds to meet the most demanding Industry requirements.

1974: Production of DELSI class materials, high percentage mineral moulding compound.

1982: DELGRA (PF) material first formulation is developed

1986: Esthetic melamine (MF) material MELCAM

1993: Polyester compound (UP) POLYDUR formulation is defined

1998: ELCHI is UNI EN ISO 9001:1994 certified by DNV – Det Norske Veritas

2000: DURALITE , MELCAM and POLYDUR are UL 94 V0 certified by UL – Underwriters Laboratories.

2004: ELCHI is UNI EN ISO 9001:2000 certified by DNV – Det Norske Veritas

[DELGRA materials for gas and fuel meters](#)

Gas and fuel meters application is ELCHI core business.

Based on thermosetting phenolic resin, DELGRA materials by ELCHI have become during years the real standard reference in gas and fuel meters field.

Those grades belong to PF (phenol-formaldehyde) classification, under ISO/TC 61 specification. Formulation has been optimized in cooperation to our customers and it's actually used by main European producers of gas meters parts.

DELGRA materials have their own force based on special graphite-mineral filler formulation, which leads to best performance in terms of:

- Dimensional stability
- Low water/moisture absorbance
- Low friction coefficient and wear
- Chemical resistance

Parts moulded in DELGRA can be lapped and finished up to real tolerances of 4-5 µm, allowing optimal fit of gas and fuel meter measuring heart.

[Dimensional stability](#)

Reliability of measure is main requirement of a meter. During its own life it will encounter moisture, different temperature and chemical aggression.

ELCHI formulation of DELGRA materials leads to parts which can withstand any of these without significant modification.

Any of DELGRA raw material are chosen to give the highest dimensional stability.

In add, ELCHI offers to producers its 30 years experience on post-curing treatment.

An oven heating of moulded parts will complete the poly-condensation reaction of the material and volatile gas will be freed, thus avoiding any possible deformation.

[Low water/moisture absorbance](#)

Hydro-repellent raw materials as graphite and other mineral have shown their optimal behavior in gas meter application.

Any gas always brings with itself a certain percentage of moisture, which could damage measure parts moulded with not reliable materials.

DELGRA class materials don't absorb water in significant quantities and this keep them dimensionally and chemically stable during many years...

[Low friction coefficient and wear](#)

A high dimensional stability and a low friction coefficient guarantee a high accuracy and silent functioning for a lifetime of many decades.

DELGRA grades are self-lubricating with excellent dimensional stability and very low friction properties, static as well as dynamic.

High graphite content makes them not suitable for electrical applications.

Mechanical properties are limited, because there are no reinforcement fillers present.

[Chemical resistance](#)

As well as in gas meter application, mainly in fuel meters moulded parts DELGRA high chemical resistance can be overlighted.

Measuring parts are subjected to severes tests with chemical aggressives substances, such as mix of liquid hydrocarbons.

Samples must withstand both, mechanical and chemical attack without losing their properties for a long while before a material could be admitted in this application field.

[ELCHI overview](#)

We do produce high quality thermosetting materials since 1974. Developing of formulations in order to satisfy special market needs is our job.

Feel free to contact our Technical Staff for any evenience or request.